



OREGON Sage-
Grouse
HABITAT
IMPROVEMENT
INITIATIVE

A Strategic Approach to
Conservation Program Delivery



Oregon Implementation Plan
March 2010



A Strategic Approach to Farm Bill Conservation Program Delivery



The Oregon Sage-Grouse Habitat Improvement Initiative provides a unique opportunity to make significant conservation resources available to landowners willing to improve rangeland health and sage-grouse habitat on their land. An overarching goal of this effort is to demonstrate that sage-grouse conservation is compatible with working, agricultural landscapes. The Conservation Title of the 2008 Farm Bill authorized several voluntary, incentive-based conservation programs administered by the Natural Resources Conservation Service (NRCS) that can be used to achieve habitat improvements. This collaborative initiative combines the strategic use of conservation programs with the biological expertise and resources of the Oregon Department of Fish and Wildlife (ODFW) to make measureable and significant progress towards addressing a specific threat to sage-grouse on private lands. It is our hope that the commitment by our agencies to this targeted approach will attract additional support and investment of resources.

During development of this plan, many stakeholders and partners provided input and indicated their support including: U.S. Fish and Wildlife Service, Bureau of Land Management, The Nature Conservancy, Oregon Watershed Enhancement Board, Harney Soil and Water Conservation District, Lake County Watershed Council, Owyhee Watershed Council, Oregon State University Extension, Wy'East Resource Conservation and Development Council, Oregon Department of State Lands, Oregon Habitat Joint Venture, Defenders of Wildlife, Agricultural Research Service - EOARC, U.S. Forest Service - Pacific Northwest Region, Oregon Cattlemen's Association and private landowners. We would like to personally thank all organizations and individuals for their continued efforts and contributions. We look forward to implementing a coordinated conservation effort that will benefit the greater sage-grouse and ranching communities throughout eastern Oregon.

Sincerely,

Ron Alvarado
State Conservationist
Natural Resources Conservation Service

Roy Elicker
Director
Oregon Department of Fish & Wildlife

Background

Greater sage-grouse populations have experienced sustained population declines in Oregon and throughout the West due to a combination of factors, such as habitat loss and degradation, resulting in multiple petitions to protect the species under the Endangered Species Act (ESA). On March 5, 2010, the U.S. Fish and Wildlife Service (USFWS) released its finding that the greater sage-grouse warrants ESA protection but listing the species at that time was precluded by the need to address other species facing more immediate extinction threats. This put greater sage-grouse on a list of “candidate” species, meaning it would not receive statutory protection under the ESA yet and states would continue to be responsible for managing the bird. However, the USFWS reviews the status of candidate species annually and could propose sage-grouse for protection when funding and workload priorities for other listing actions allow.

Federal protection of this wide-ranging species would likely have a dramatic impact on livestock ranching and other industries in eastern Oregon. Placing sage-grouse on the candidate list, though, provides an opportunity to avoid the need for more stringent regulations if significant conservation actions are taken to curtail the threats to grouse. Should the status of the sage-grouse sufficiently improve as a result of conservation efforts, USFWS could determine that protection under ESA is not needed.

Private landowners have an important role in the improvement of sage-grouse habitats across Oregon. Many have already been actively involved in improving their lands to benefit grouse. Federal, state, and local partners have been working to provide technical and financial assistance for additional sage-grouse habitat treatment. For example, from 2003-2009, over 31,000 acres of private land were improved specifically to benefit sage-grouse using Farm Bill programs administered by NRCS in Oregon.

Although previous Farm Bill-funded projects to improve sage-grouse habitat have been valuable, they often lacked focus on a specific threat or habitat area and were unable to adequately address the scale of the problem. Consequently, it has been difficult to quantify progress and significantly reduce any specific threat.

The 2008 Farm Bill reauthorized a number of conservation programs that provide opportunities to assist private landowners continue their efforts in improving sage-grouse habitat. NRCS has partnered with ODFW to develop a more strategic and focused approach to investing conservation resources to make measurable progress in sage-grouse conservation efforts on private lands. This plan identifies the parameters of the cooperative Sage-Grouse Initiative.



Strategic Approach

The purpose of the Oregon Sage-Grouse Habitat Improvement Initiative is to make measurable and significant progress toward treating a specific threat to sage-grouse on private lands through strategic use of conservation programs. This approach is based on the principle that focusing resources on a specific problem in the most critical locations on the landscape results in the highest likelihood of affecting sage-grouse populations in the shortest amount of time.

The Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (Hagen 2005) serves as the foundation for this initiative and identifies a number of major issues that may pose a risk for sage-grouse. Broad categories of issues include wildfire, prescribed fire, livestock grazing, expansion of western juniper (*Juniperus occidentalis*), invasive vegetation, vegetation treatments, realty, recreation, predation, and West Nile Virus. These issues were evaluated to determine the primary focus of initiative efforts. Several factors were considered in the selection of a focal issue including: 1) likelihood that treatment would produce immediate habitat benefits, 2) prevalence of the issue on private lands, 3) ability to utilize existing conservation programs to treat the issue, and 4) level of support among landowners and partners for necessary treatment. After careful consideration, juniper expansion emerged as the issue with the greatest potential to satisfy all factors. Treatment of this issue is also consistent with the Oregon Conservation Strategy (ODFW 2006), which identifies juniper invasion as a limiting factor to conservation of a variety of species in sagebrush-steppe and shrublands.

Targeted Threat: Juniper Expansion

Since the late 1800's, western juniper has subtly been expanding its range across eastern Oregon into sites previously dominated by grasses, forbs, and shrubs. Although juniper is a native plant, a combination of conditions, including fire suppression, allowed this species to spread dramatically beyond the fuel-limited sites it historically occupied. Juniper can generally be categorized as pre-settlement (old-growth) or post-settlement (expansion) communities (Miller et al. 2005). Post-settlement expansion of western juniper into habitats formerly dominated by sagebrush has been pervasive. Many areas have experienced an estimated 10-fold increase in juniper over the last 130 years. (Miller et al. 2005).

The presence of western juniper in sagebrush communities poses a number of problems for sagebrush-obligate species like sage-grouse. Sage-grouse are highly dependent on vast, open landscapes with sagebrush for survival and reproduction. As juniper invades, sagebrush declines and the plant community transitions to woodland that becomes increasingly unsuitable for grouse. Ultimately, this transition results in habitat loss for a species that depends upon sagebrush for food and cover and that



evolved in landscapes relatively free of tall vertical structure. Even at low densities, the presence of trees in shrublands may be problematic for grouse. Preliminary results from research in Oregon suggest significantly reduced grouse use of sites with more than 5% juniper cover (R. F. Miller, personal communication). Trees provide enhanced perching opportunities for avian predators, such as raptors and ravens, that may result in higher rates of mortality and nest predation.

Most post-settlement juniper communities are still in a state of transition. Miller et al. (2005) characterized three stages of woodland succession:

- Phase I (early) – trees are present but shrubs and herbs are the dominant vegetation that influence ecological processes (hydrologic, nutrient, and energy cycles) on the site;
- Phase II (mid) – trees are codominant with shrubs and herbs and all three vegetation layers influence ecological processes on the site;
- Phase III (late) – trees are the dominant vegetation and the primary plant layer influencing ecological processes on the site.

Sites in Phase I or II successional stages often retain a significant understory of sagebrush, grasses, and forbs (Fig. 1) compared to Phase III stage sites where understory plant layers are reduced or absent. Consequently, removal of juniper on sites in Phase I or II can produce immediate habitat benefits for grouse (Fig. 2 on following page). Treatment of Phase III sites, although potentially beneficial, can take significantly more resources and time to recover the understory vegetation required to support sage-grouse. Therefore, the focus of this initiative is on treating post-settlement juniper in the Phase I or II successional stages that have expanded into sagebrush sites.



Fig. 1: Phase II juniper expansion

Targeted Geographic Areas

In Oregon, the current range of sage-grouse covers roughly 14-15 million acres (Hagen 2005), but not all portions of the landscape are utilized equally. For example, telemetry data from marked grouse in Oregon indicates that approximately 80% of nesting occurs within three miles of a “lek” site, or strutting ground where birds gather





Fig. 2: Example of juniper removal in a Phase I expansion area resulting in improved habitat for sage-grouse

in the spring to mate (C. A. Hagen, personal communication). Typically, sage-grouse use the area within three miles of a lek for breeding, nesting, and brood rearing. For some populations, the lek serves as the year-round center of activity.

ODFW, Bureau of Land Management, and others have identified and mapped a number of lek sites through systematic surveys. Designated leks are monitored annually in the spring to count birds present and estimate grouse population size. Due to the availability of data on lek sites and the disproportionate use by grouse of surrounding lands, the area within three miles of a lek is considered a high priority for conservation efforts.

These high priority habitats cover about two million acres of private land alone in Baker, Malheur, Harney, Lake, Deschutes, and Crook counties (Appendix 1). This initiative will primarily target a subset of these high priority habitats affected by juniper expansion. However, private lands located outside priority areas that are known to be used seasonally by grouse (e.g., brood-rearing or winter habitat) will also be considered for treatment. A “core area” analysis is currently being conducted by ODFW to refine high priority habitats and allow further prioritization of future conservation efforts.



Scope of the Problem

The following data represent initial estimates of the total amount of land (private and public ownership) currently occupied by Phase I and II juniper within three miles of known leks (Table 1). These figures were calculated using available GIS data on lek locations, Northwest GAP, LANDFIRE EVT, and land ownership. Estimates will be refined as more detailed data become available. Prescriptions for juniper removal on any given site will be based on a field investigation that utilizes Ecological Site information and guidance provided in USGS Circular 1321 (Miller et al. 2007). Pre-settlement (old growth) juniper will not be removed.

	Phase I				Phase II		
County	Private	Public	Total		Private	Public	Total
Baker	14,424	4,301	18,725		5,375	1,834	7,209
Crook	24,483	42,635	67,118		31,679	5,938	47,617
Deschutes	1,333	9,995	11,328		662	5,899	6,561
Harney	30,610	213,420	244,030		46,851	112,700	159,551
Lake	12,362	103,561	115,923		13,863	45,339	59,202
Malheur	20,392	82,067	102,459		10,526	25,013	35,539
Total =	103,604	455,979	559,583		108,956	206,723	315,679

Table 1. Estimated amount of land within three miles of known sage-grouse leks currently occupied by juniper (Phase I and II) in Oregon by ownership.

Goals

The overarching goals of this initiative are to:

- ***Restore sage-grouse habitat that has been lost or degraded due to juniper expansion***
- ***Demonstrate that sage-grouse conservation is compatible with the sustainability of working ranches***

Objective

- ***Treat 53,000 acres (25% of the problem on private lands) of Phase I and II juniper expansion in high-priority habitats by the end of 2012.*** This represents the overall target for habitat improvement over the course of the 2008 Farm Bill. Further focus and collaboration of resources in core areas will be encouraged and may result in treating a much larger portion of the problem in certain key areas.



Habitat Improvement and Management

A sage-grouse habitat assessment will be completed on the proposed treatment area to identify limiting factors or possible threats. Findings and recommended treatment alternatives will be discussed with landowners. At a minimum, juniper expansion will be addressed in the habitat improvement plan. The primary NRCS conservation practices that will be used to improve sites include:

- Brush Management (code 314) – Juniper will be mechanically removed and downed tree slash will be treated through lop-and-scatter, pile-and-burn, or hauled off-site. If downed trees are left on-site, they will be reduced to less than four feet tall to the extent feasible. Existing sagebrush will be retained.
- Range Planting (code 550) – Seeding of perennial bunchgrasses, forbs, and/or shrubs may be needed on sites where existing cover is insufficient.
- Upland Wildlife Habitat Management (code 645) – A wildlife management plan will be written to identify planned actions that will be implemented to improve sage-grouse habitat. Grazing will be managed appropriately to provide adequate herbaceous cover during the anticipated season of sage-grouse use. Two growing seasons of rest within treatment units will be encouraged where necessary.

To a lesser extent, additional measures may be needed to address other threats identified during site inventory. These measures include:

- Fence modifications or relocations – Fences pose a number of hazards for grouse. Birds may accidentally strike fence wires, and posts may serve as perches for avian predators. If problems are suspected, it may be necessary to remove, modify, or relocate fences.
- Retrofitting watering troughs – Sage-grouse may use livestock watering troughs, especially during the late summer and early fall. Many troughs are not equipped with properly-designed wildlife escape ramps, which could lead to accidental mortality of grouse and other wildlife. If there are existing troughs on the site, it may be appropriate to retrofit them with ramps to provide safe escape.
- Invasive and noxious weed treatment – The presence of invasive or noxious weeds on a site reduces habitat quality and threatens long-term persistence of the native plant community. Recommendations will be made to control and prevent the spread of these weeds if detected during the inventory.

Estimated Cost

Assuming \$150/ac average cost, the total estimated cost of removing juniper from 53,000 acres is approximately \$8 million.



Anticipated Funding Sources

NRCS

2008 Farm Bill conservation programs will provide the bulk of funding for this initiative. The Wildlife Habitat Incentives Program (WHIP) and Environmental Quality Incentives Program (EQIP) will be the primary programs used to plan and implement habitat improvement practices. Other programs may also be available to add value to the initiative. The Conservation Innovation Grants (CIG) program, for example, could be used to stimulate the development and adoption of innovative conservation approaches, while the Grasslands Reserve Program (GRP) may be used to secure long-term protection for grouse habitat on working ranches.

ODFW

Funding from Upland Stamp Funds and the Access and Habitat program will be used to assist landowners in accomplishing sage-grouse habitat improvement.

Other Potential Sources

- Oregon Watershed Enhancement Board (OWEB) – The OWEB Grant Program makes funding available on a competitive basis for a variety of activities, such as on-the-ground projects and monitoring that could be used to help implement this initiative. It is anticipated that partners will apply for funding from OWEB.
- U.S. Fish and Wildlife Service (USFWS) – The Partners for Fish & Wildlife Program provides technical and financial assistance to private landowners interested in improving habitat for species of concern, such as sage-grouse, which may be available for habitat projects.

Partnerships and Coordination

NRCS and ODFW will lead the way in providing technical and financial assistance to private landowners interested in participating in this initiative. However, it is expected that other conservation partners will provide assistance in achieving the goals of this initiative. Some of the conservation partners may include: U.S. Fish and Wildlife Service, Soil and Water Conservation Districts, Watershed Councils, Oregon Watershed Enhancement Board, Oregon State University Extension, The Nature Conservancy, Resource Conservation and Development Councils, Oregon Department of State Lands, Oregon Habitat Joint Venture, Agricultural Research Service, Bureau of Land Management, and U.S. Forest Service.

Implementation of this initiative will be coordinated with applicable agencies, partners, and local sage-grouse working groups to ensure broad-based support. Public land management agencies, in particular, will be engaged on the state and local



level to coordinate treatment focus areas to maximize habitat benefits across ownership boundaries whenever feasible.

Potential partner contributions to the initiative might include:

- Outreach – Partners can help inform landowners in high priority habitat areas of available assistance and increase awareness of sage-grouse conservation issues.
- Targeted Funding – Partners with financial assistance programs or public land management agencies could focus their funding on treating lands in the high priority habitat areas. This would increase the cumulative impact of the treatments.
- Monitoring – Partners with technical and financial resources could help accomplish some meaningful ecological monitoring.
- Planning Assistance – Partners with technical assistance resources could work with prospective landowners to gather needed inventory data and preliminary plan alternatives. In particular, partners with sage-grouse expertise could work with interested producers to identify and map potential treatments units. Also, partners with range expertise could work with landowners to gather baseline range inventory information on proposed treatments units.

Expected Participation Level

Participation in this initiative by landowners is voluntary. It focuses on treating the threat of juniper expansion first, in part, because it can be readily addressed by private landowners and is compatible with livestock production objectives. Historically, many landowners have conducted juniper removal to improve both habitat and rangeland health. Because juniper removal often results in long-term economic benefit to ranchers by maintaining or increasing herbaceous production, participation is potentially high. However, outreach will be needed to increase awareness of habitat issues and encourage participation by landowners within the identified high priority habitats.

Tracking Progress and Monitoring

At a broad scale, progress on the initiative will be measured by the number of habitat acres treated. Individual project monitoring will at a minimum include a baseline habitat assessment and establishment of photo points. Additional ecological monitoring will be highly encouraged wherever permitted by the landowner, and if resources are available, in order to gain a better understanding of individual project results. For example, vegetation transects may be established to quantify plant community changes over time. Also, sage-grouse population response may be monitored through pellet transects inside treatment areas, and where appropriate,



through counts of males at leks. Due to the sensitive nature of working with a species of concern, landowners may want their participation in the initiative to remain confidential. The primary funding agency on each project will be responsible for ensuring the privacy of participants to the fullest extent possible under state and federal law, and will not disclose project information unless permission has been granted by that individual.

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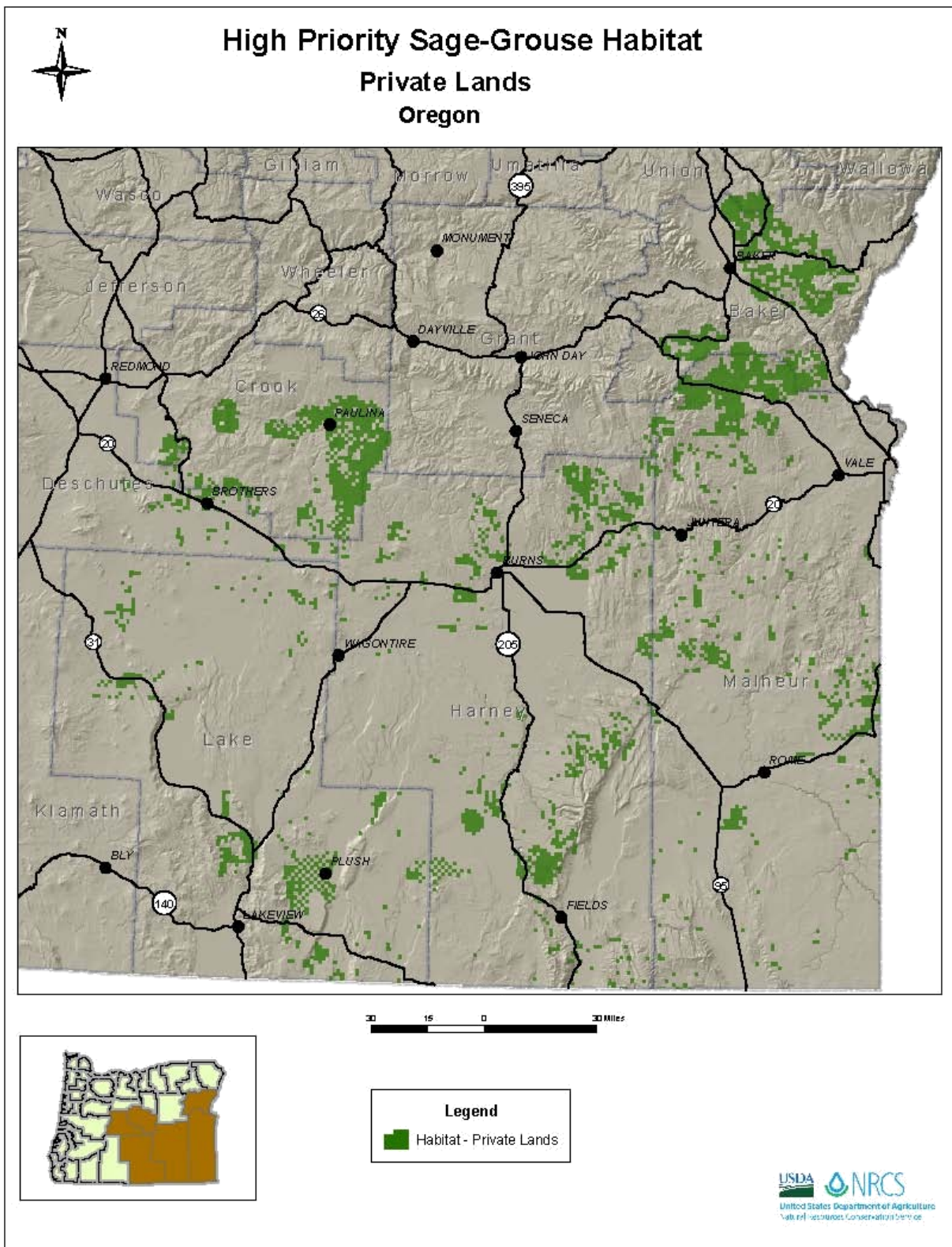
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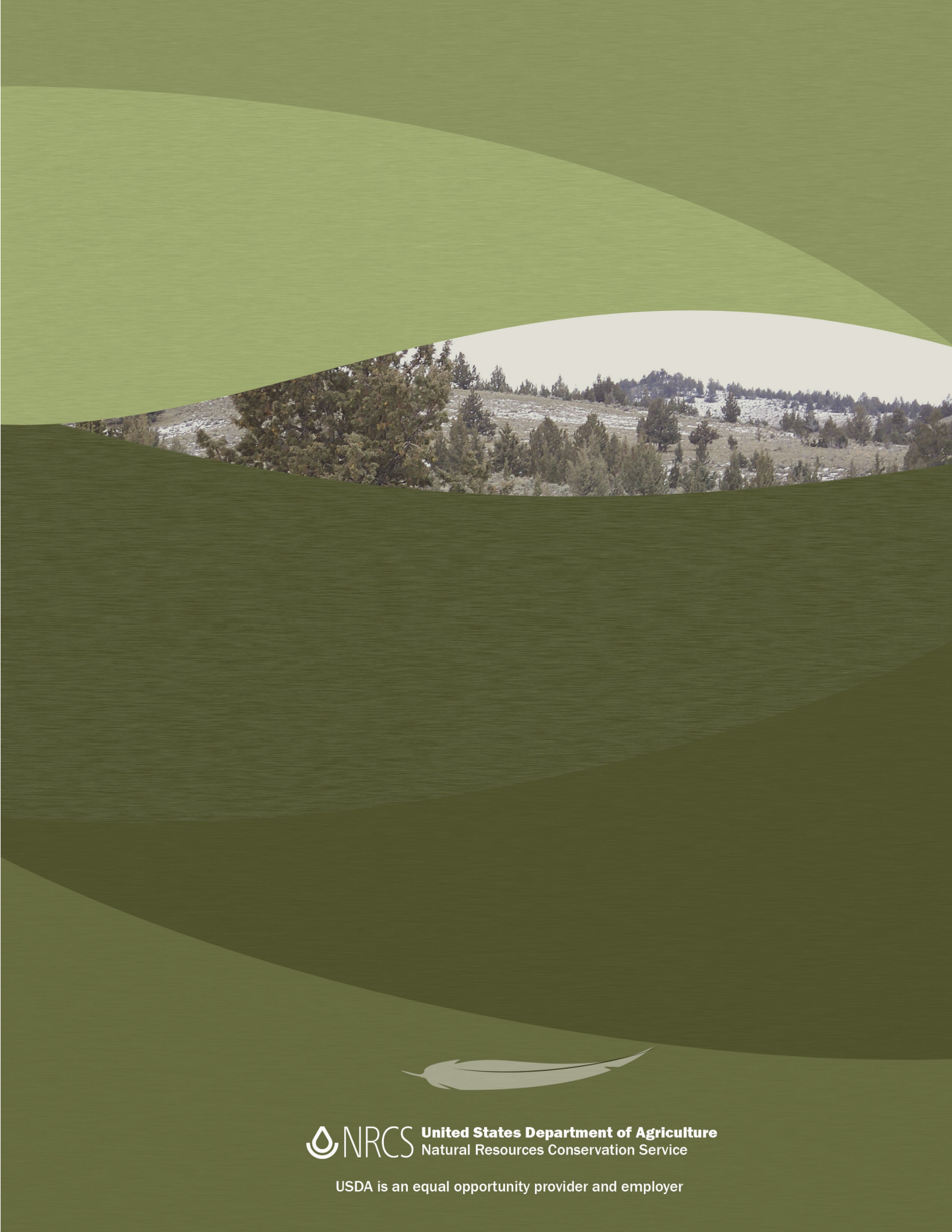
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Appendix 1. This map represents private lands that occur within three miles of a known lek. Lands affected by Phase I or II juniper invasion within these areas are considered a high priority for treatment under this initiative.





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